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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/026,091	12/21/2001	Stephen R. Forrest	10644/11902	8289

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EXAMINER

YAMNITZKY, MARIE ROSE

ART UNIT PAPER NUMBER

1774

DATE MAILED: 06/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/026,091

Applicant(s)

FORREST ET AL.

Examiner

Marie R. Yamnitzky

Art Unit

1774

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 75-109 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 75-85, 87-98, 100-105 and 107-109 is/are rejected.
7) ☒ Claim(s) 86, 99 and 106 is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date rec'd 07 Apr 2005
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114.

Applicant's submission (IDS) filed on April 07, 2005 has been entered.

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 75, 78-85, 88, 91-98 and 101-105 are rejected under 35 U.S.C. 102(b) as being anticipated by JP 63-300576.

See the English language abstract provided by applicant, and see Figures 5, 6, 7 and 8 in the Japanese language document.

The prior art discloses a color sensor (which is a type of photodetector) comprising, in the order listed, a light transmissible first conductive layer, a first organic colorant layer, a light transmissible third conductive layer (reference numbers 13, 23, 33 and 3 in Fig. 5, 6, 7 and 8, respectively), a second organic colorant layer, and a light transmissible second conductive layer. The first and second organic colorant layers have different light absorption peaks from each

other, and meet the limitations of the first and second organic photosensitive subcells stacked in superposed relationship as required by the present claims. The light transmissible third conductive layer meets the limitations of the conductive layer disposed between and in a superposed relationship with the first and second organic photosensitive subcells.

In the device depicted in Fig. 5, the light transmissible third conductive layer is made of SnO₂ (tin oxide). In the device depicted in Fig. 6, the light transmissible third conductive layer is made of Al (aluminum). In the device depicted in Fig. 7, the light transmissible third conductive layer is made of Au (gold). ITO (indium tin oxide) is also disclosed for use in the light transmissible third conductive layer. For example, see the first column on the bottom half of the third page of the Japanese language document, where "...3...SnO₂, ITO" appears.

Based on the abstract and the drawings, it is the examiner's expectation that the light transmissible third conductive layer of the prior art device is capable of functioning as a charge transfer layer or as an electrode, and that the subcells can be electrically connected in series or in parallel.

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 76, 77, 87, 89, 90, 100 and 107-109 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 63-300576 as applied to claims 75, 78-85, 88, 91-98 and 101-105 above, and for the further reasons set forth below.

Regarding present claims 76, 77, 89, 90, 107 and 108, the examiner obtained a partial oral translation from a translator in the USPTO Translation Branch and was informed that the prior art does not disclose the thickness of the light transmissible third conductive layer. Absent a showing of criticality for the presently claimed thickness range, it is the examiner's position that it would have been within the level of ordinary skill of a worker in the art at the time of the invention to determine suitable and optimum thicknesses for the light transmissible third conductive layer of the prior art color sensor based on considerations such as an expected decrease in light transmittance with increasing thickness.

Regarding present claims 87, 100 and 109, the third conductive layer of the prior art device is required to be light transmissible, but the transmittance with respect to all ambient electromagnetic radiation is not disclosed. The light transmissible third conductive layer of aluminum for the device of Fig. 6 is disclosed as having 60% transmittance at 550 nm. The light transmissible third conductive layer of gold for the device of Fig. 7 is disclosed as having 70% transmittance at 550 nm. The abstract indicates that the disclosed device can be used to identify substantially all visible light wavelength bands. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention optimize the transmittance of the third conductive layer so as to optimize the ability of all ambient electromagnetic radiation to reach the colorant layers, thereby optimizing the color sensing capabilities of the device.

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6. Claims 86, 99 and 106 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Any inquiry concerning this communication should be directed to Marie R. Yamnitzky at telephone number (571) 272-1531. The examiner works a flexible schedule but can generally be reached at this number from 6:30 a.m. to 4:00 p.m. Monday, Tuesday, Thursday and Friday, and every other Wednesday from 6:30 a.m. to 3:00 p.m.

The current fax number for Art Unit 1774 is (703) 872-9306 for all official faxes.
(Unofficial faxes to be sent directly to examiner Yamnitzky can be sent to (571) 273-1531.)

MRY
June 13, 2005



MARIE YAMNITZKY
PRIMARY EXAMINER

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